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ORGANIZATION AND MANAGEMENT OF TECHNICAL MEETINGS AND SEMINARS

H. W. Jackson

Environmental Protection Agency
Cincinnati, Ohio

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ORGANIZATION AND MANAGEMENT
TECHNICAL MEETINGS AND SEMINARS

ENVIRONMENTAL PROTECTION AGENCY

NATIONAL ENVIRONMENTAL RESEARCH CENTER - CINCINNATI

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This document describes in detail all of the arrangements necessary for organizing and conducting a technical meeting or a seminar. The role of speakers, general chairmen, technical assistants, and manager are covered in detail. Included are useful checklists and examples of forms used in past seminars.

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ORGANIZATION AND MANAGEMENT OF TECHNICAL MEETINGS AND SEMINARS

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PREFACE

Technological and other information from the Environmental Protection Agency and other governmental units is often urgently needed by key individuals in many places as soon as possible, without waiting for the time-consuming process of publication and "distribution through channels." Short technical seminars of one or a few days' duration, often repeated in different parts of the country, have proven to be extremely effective in rapid dissemination of information of this type. Meetings of nongovernmental professional societies, special "task" groups, communities, and other types of information-dispensing or information-exchanging gatherings are also frequently of great importance and often urgency to both the participants and society at large.

Unfortunately, I have observed over the years that speakers on such occasions all too often either fail completely, or succeed only partially, in fully imparting their message to the audience, in "communicating."

In some cases this shamefully wasteful process is due to inexpertise on the part of the speaker, at other times to poor physical facilities, or other factors beyond his control. The following pages are offered in hopes that they will enable part-time instructors or lecturers to make a better speech and to assist the administrator or organizer in preparing a program and an environment in which a better speech can be made!

H. W. Jackson
Cincinnati, Ohio
September 1971

ORGANIZATION AND MANAGEMENT OF TECHNICAL MEETINGS AND SEMINARS

I INTRODUCTION

These guidelines are a brief summary of principles and ideas gleaned from the experience of the National Training Center, and its predecessor organizations over the years in presenting technical material to appropriate audiences. In general, specialists respect each other: the physician is respected as a curer of human ailments, the engineer as an applier of knowledge, the research worker as an investigator in a particular specialty. No one should know more about the problem at hand than the investigative team which has just completed a project. They should be the ones who deliver key talks and answer technical questions. With a few outstanding exceptions, however, such individuals are rarely excellent or even adequate speakers, teachers or writers. Some actively dislike public speaking. This is therefore a plea for specialists to consult specialists: let research specialists enlist the aid of training or speaking specialists in developing their programs.

First a leader or general organizer must exist. He may be the head of a government bureau, a project director or the elected president of a society. But he must believe in the importance of the projected meeting or seminar and be technically competent to direct it.

Technical or research men (or groups) must provide the information and (usually) do most of the actual work of preparation and presentation. But the training specialist can assist vitally in planning, staging, evaluating proposed visual aids, suggesting methods of presentation, and other areas to be mentioned later.

II SUMMARY OF PROCEDURE

A Advance Planning

	Discussed on page:
1. Appoint or acknowledge a leader-coordinator-"spark plug," the General Chairman	1
2. Technical and Professional Aspects	
a. Establish a small technical task force or committee which will soon be enlarged to include one or more administrative individuals and consultants.	2,14
b. Formulate a statement of specific need, opportunity for technological transfer or other objective. Why is it necessary? What is to be accomplished?	
c. Determine the target audience. Who needs to know?	
d. Develop a tentative topical agenda for strictly technical contents, including tentative or potential speaker assignments.	6
e. Develop an annotated technical agenda in which the coverage of each session is carefully defined and coordinated with that of other sessions.	7
f. Reexamine the statement of objectives (2 above). As listed, does each agenda session contribute? Is there needless duplication between sessions? Is extraneous material introduced? Should the objectives be revised or restated?	8

		Discussed on page:
g.	Make final speaker assignments and initiate the preparation of detailed "Speaker's Session Plans" (or speaker's notes) for each session.	8,9
h.	Enlist the services of a trainer or professional speaker. Request his advice and assistance in:	
	1) Expanding the technical agenda into an official "Program,"	8
	2) The design and production of visual aids,	10
	3) Coaching and rehearsing technical speakers to achieve maximum effectiveness,	14
	4) Coaching and advising the Floor Manager (see below) if necessary, and	27
	5) Other items as appropriate	
i.	Appoint a nontechnical individual to work with the technical task force in making administrative and nontechnical arrangements. This person can often serve advantageously as "Floor Manager" (see also Tables 4 and 5, pages 31 and 34 and Appendix B-8).	14
j.	Prepare detailed speakers notes or "Session Plans" for each session, including plans for visual aids.	9

Discussed on page:

k. If printed handout material is contemplated, the form or style should be determined early in the planning stage, and an individual given responsibility for its preparation and reproduction. 13

l. Technical and honorary guest speakers, session chairmen and others should be recruited as soon as possible after the final program is determined. 9

3. Administrative and Operational Facets

a. Determine if funds and official sanction for such a meeting are available. 14

b. Assign adequate headquarters office personnel and facilities to carry out project. 14

c. As soon as objectives and target audience are determined, locate one or more potentially suitable meeting sites. 15,16

d. Make tentative determination of date or dates. 6

e. Send a qualified representative or team to investigate each site and determine if it is available on the desired date. Forward the resulting recommendation through the proper channels at the earliest possible time. It is good policy, if otherwise feasible, to designate the future

Discussed on page:

"Floor Manager" as chief site investigator or at least a member of the team. 15

f. Provide for printing and distribution of preliminary publicity announcements, programs, or invitations. 14

g. Review the check list (Table 4) and identify any nontechnical items not already provided for. Assign responsibility to an appropriate individual to make arrangements for such items as clerks and typewriters for registration, name tags, roster production, arrangements for coffee breaks, and other items that may be necessary. 31

B. On-Site Preparations for Opening Session (see also: On-Site Recheck List, Table 5)

1. The General Chairman or his appointed deputy should be present and available for "crises" policy decisions which usually arise. He should meet and entertain visiting dignitaries and others so that the Floor Manager may be left free to attend to the many last-minute checks. 26

2. The Floor Manager should assure himself that all local specific arrangements have been carried out as planned and that the needs are met if a breakdown has occurred. Critical items usually needing a final recheck are listed in Table 5. 27

III. PLANNING AND PRESENTING THE TECHNICAL PROGRAM

A. Objectives

A document which clearly and succinctly states the objectives to be achieved by the proposed program is fundamental to the entire operation. If an item proposed for the agenda does not contribute specifically to one of the objectives, either it should be deleted or the objectives should be reconsidered. Do not attempt to cover the entire field of science in one seminar. Confine your objectives to the relatively limited new developments concerned. List exactly:

1. What is to be accomplished (taught or imparted to the audience), and
2. Whom the "target" audience should be and how well these people are informed.

B. Lead Time

Never underestimate the time preparing a technical seminar requires. Return to your objectives. If the "target audience" is the man down the hall, invite him to the coffee shop and stage your seminar. If you plan to invite one or two hundred men from a "region," three to six months is a minimum. If your audience is still more extensive, a year or more may be necessary. The summary check list (Table 4) may suggest some additional reasons why ample time for planning and staging such sessions is essential.

C. Tentative Topical Agenda

The development of a schedule of presentation or "tentative agenda" will probably begin before the statement of objectives has been finally adopted, but no items should

be included that do not contribute to achieving the agreed upon objectives. Consideration should be given to the logical sequence of presentation, the estimated time required to develop each topic, and the potential individuals to present each topic. This assures at an early stage that the technical competence or information envisaged in the original concept is indeed available.

Make tentative or potential speaker assignments.

D. Annotated Agenda

An annotated agenda should now be developed in which the subject matter coverage of each session is carefully set forth and identified as achieving one or more of the objectives. There are various ways to accomplish this. For example:

1. the Project Director can prepare the entire document and submit it to the technical speakers as an administrative assignment, or
2. the speakers assigned to the various topics in the agenda can each submit to the Director his concepts of what he should cover and, if pertinent, how he proposes to do it.

The statement summary or outlines enlarging on the tentative agenda topics should be brief (less than one page). This makes it possible for the reviewer or reviewing team to keep the exact coverage of each session and its contribution to the stated objectives clearly in mind. The general purposes of the annotated agenda are:

1. to assure that all objectives are indeed covered,
2. to avoid undue duplication of material between sessions,

3. to assure that the relationship of each topic to other topics is evident, and

4. to provide for optimum sequence of presentation to achieve a logical coherence of the overall program.

Revision of the original statement of objectives may not now be in order.

E. Final Topical Agenda or "Program"

After the technical portion of the program has been refined to everyone's satisfaction, it should be completed by the addition of a few amenities such as a "Welcome" by some prominent individual, "Break" and "Lunch" periods, the names of session chairmen if such are used, "Concluding Remarks," etc. You now have the meeting's official "Program."

In general it is wise to avoid assigning a given individual responsibility for conducting more than two sessions in succession. Plan for frequent alternation of speakers. This not only reduces speaker fatigue, but also greatly reduces boredom in the audience. Lecture sessions should not exceed an hour. Preferably they should last fifty minutes or less. Opportunity for questions and discussion should be provided if humanly possible, even if the technical presentation must be shortened.

The audience should have an opportunity to at least stand up and stretch between each session.

A fifteen to twenty minute break should be mandatory during the first part of the morning, and a ten minute break during mid afternoon; this is particularly important in seminars lasting two or more days.

	A.M.		P.M.
1	Registration, welcome and introduction	7	Technical session
2	Coffee break	8	Ten minute break
3	Technical session	9	Technical session
4	Standup break	10	Five minute break
5	Technical session	11	Technical session
6	Lunch	12	Adjournment

PLATE 1 Suggested Pattern for First Day
(Adapt to circumstances)

F. Speaker's Session Plans (Speaking Notes)

Require each speaker to develop a Speaker's Session Plan (SSP) for each session (see Appendix A). This is a formalized topical series of "speaker's notes," indicating where visual aids will be used, the sequence of topics to be discussed, and the approximate time devoted to each. This SSP should be checked against the annotated agenda to assure complete coverage of the assigned topic as mentioned above.

In use, the original speaker may refer infrequently to his SSP after the first few presentations, and he may wish to amend it from time to time as he discovers better sequences and methods of presentation. After original organization, its greatest use is as "insurance" in case some other person has to substitute in an emergency, or is assigned to "take over." Under no circumstances should a paper or manuscript be read verbatim (except for brief

quotations). A speaker may prepare a potentially verbatim manuscript or even a paper for publication to "get his thoughts in order," and he may prepare his SSP directly from the paper. But he should speak, from notes.

G. Visual Aids (Usually Projectuals)

It may be difficult to convince the traditional technologist of the importance of visual aids, and to justify to him the time and effort required to produce them. But their importance cannot be overemphasized. The training consultant should be called on heavily at this point.

Visuals enable the audience to <u>see</u> what the speaker is trying to <u>say</u>! Of our five senses, seeing is by far the most effective avenue to learning--hearing comes in a very poor second. Since the technical man already knows what he is to talk about (see above), he usually needs to <u>spend more time</u> devising ways to visualize his message than preparing words to verbalize it (note Table 1).

TABLE 1

THE POTENTIAL OF VISUALS TO SUPPLEMENT THE SPOKEN WORD

	Recall 3 Hours Later	Recall 3 Days Later
Lecture only	25%	10%
Visuals only	72%	20%
Blend of lecture and visuals	85%	65%

Even visuals can detract from the message if they are poorly prepared or shown. For example: research workers frequently project slides showing tabular data lifted from published or typewritten material, which are almost unreadable in the second row, and only a blur at the back of the room. This detraction can be compounded by a speaker's inadequate discussion or analysis. There is no single set of rules for the production of good visuals--each one is different (Plate 2).

Use your training consultant heavily in this area which is far too large to discuss fully here. His group may or may not have the capacity to assist you physically, but his advice can spell the success of the seminar (note also references 2 and 5).

TABLE 2
CHARACTERISTICS OF GOOD VISUALS

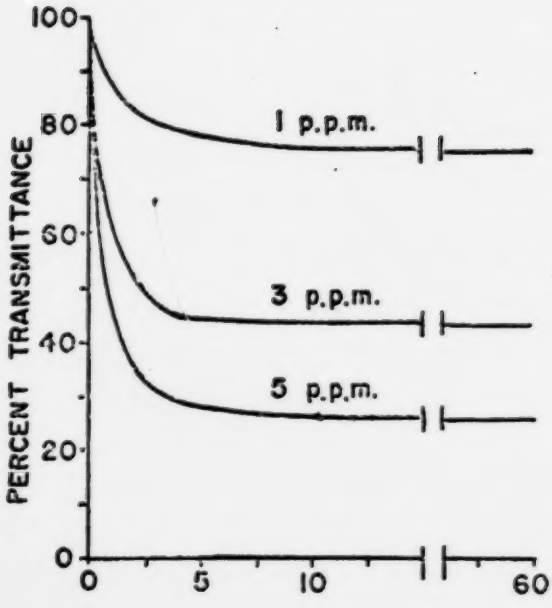
One point or comparison per visual
A maximum of seven lines per visual
A maximum of seven words per line
Bold and big
Stimulate interest
Challenge the viewer

There are a few additional points to bear in mind:

1. Projectuals (slides, etc.) used in any one presentation or discussion should all be of the same form, such as 2 x 2 slides or 8 x 10 "overheads," in order to avoid the requirement of more than one type of projector (unless a movie, too, is to be used).

TABLE 1.--Effect of discotination time at three temperatures on the percentage of transmittance values observed for M-222 in the Preiser-Marshall reaction

Discotination time and temperature	Percentage of transmittance at--					
	1 p.p.m.		3 p.p.m.		5 p.p.m.	
	Mean	Range	Mean	Range	Mean	Range
10-15 minutes:						
15.0° C.	77.3	77.8-81.1	48.4	46.9-50.3	29.7	29.5-30.6
22.5° C.	77.8	76.5-80.4	47.7	45.0-48.4	28.7	28.5-30.2
30.0° C.	77.0	76.5-78.8	46.9	45.0-47.6	28.2	27.4-29.3
15-20 minutes:						
15.0° C.	77.2	76.8-79.1	47.0	46.3-50.0	28.1	27.6-29.5
22.5° C.	76.8	76.5-77.6	46.6	45.5-47.0	27.5	26.5-28.9
30.0° C.	76.3	75.7-77.0	46.0	45.0-46.7	27.0	26.3-27.9
20-30 minutes:						
15.0° C.	76.1	75.8-76.5	44.6	43.9-45.0	26.2	25.8-26.6
22.5° C.	76.6	75.6-76.1	44.0	43.1-44.6	25.8	25.4-26.2
30.0° C.	75.3	74.9-75.8	43.5	43.0-44.0	25.3	24.7-25.8



A

B

PLATE 2

TWO PRESENTATIONS OF DATA FROM THE SAME STUDY

A An all too familiar sight to technical audiences. Extended study would be required for real comprehension. Note poor quality of reproduction.

B Selected information from Example A presented for quick visual impact.

Reproduced from best available copy.

2. In case your organization, not the host, is providing projector and projectionist (see Section IV B 5 below), plan to carry your own projector with you when traveling. It will often avoid the embarrassment of trying to learn to operate a strange projector in front of an audience. Be sure to include power extension cords totaling thirty to fifty feet and remote control extensions totaling 75 feet. A remote control 2 x 2 magazine projector with a zoom lens is strongly recommended, but you may need lenses with still longer focal lengths. Be sure to carry at least one spare bulb.

If you use a magazine projector, you can check and load slides for each presentation before departure and transport them in the magazine. Sometimes you will need an entire magazine for one presentation; sometimes slides for two or three presentations can be loaded into one magazine. Some speakers prefer to have all slides for their own sessions loaded in proper sequence into one or more magazines. Be sure magazines are plainly marked! The cost of extra magazines is miniscule compared to the total cost of the meeting.

H. Handout Material

An early decision must be made as to what printed or duplicated technical material will be distributed to the audience, and subcommittees with appropriate instructions set up. This may range all the way from a simple mimeographed topical agenda to formally prepared papers bound into a book of "Transactions." If international distribution or audience is anticipated, there will also be linguistic problems.

If research papers or other organized materials are to be distributed before the meeting for the audience to follow or refer to, it is very important that an "Index" or "Table of Contents" be prepared ahead of time and included in the original volume or packet so particular papers may be readily located when a speaker mentions them. Thus if a particular paper is not prepared in time to be included in the original volume, its proper place or relationship is evident when it becomes available.

It is very helpful if all fundamental visual aids, or approximations thereof, can be reproduced in the handout material.

I. Rehearsals

If there is any question about timing or any other aspect of a given presentation, the Training Consultant will be pleased to coach or otherwise work with the speaker in his preparation. Contact the training representative on your local committee for further information.

IV. ADMINISTRATIVE AND OPERATIONAL FACETS

A. Official Authorization

It will be assumed here that official sanction for and assurance of financial support has been obtained, and that clerical, secretarial, and other nontechnical support elements are available. A nontechnical "administrative officer" should be appointed to coordinate the following arrangements:

B. Meeting Room and Facilities

As soon as the basic decisions have been made, a meeting room should be located and tentatively reserved. Final reservations should under no circumstances be made until an on-site inspection has been made by a competent person as far ahead of the meeting date as possible. Items to be investigated are discussed below.

1. Negotiating with Host Organization

Ascertain the degree of cooperation and helpfulness offered by the "salesman" or other representative contacted. This will be influenced to some extent by: established policies, the size of the hostelry or institution, the anticipated size of your meeting, the time available for preparations, financial considerations, other factors which may be peculiar to each situation.

Leave with the potential host (or forward later with official confirmation) a clear statement of all details agreed upon. Include a sketch of the desired room arrangement and associated facilities and a list of specialized equipment (projectors, etc.) to be furnished by each party. If the host organization does not provide a projectionist, provide one yourself. Most hotels and other institutions which cater to such gatherings have prepared forms for this purpose. If this is the case, request a record copy for yourself if one is not automatically proffered.

2. The Meeting Room

Assuming acceptable cooperation, seek a room with adequate seating capacity for the expected audience. Base your choice on the area of the room within the "good viewing area" of an adequate screen if possible, rather than on the total possible seating capacity of the room (see Plate 3).

Approximately 5 to 6 square feet should be allowed per person (more for more commodious accommodations or types of situations), using the common type of folding steel chairs. Appropriate procedure is to:

a. decide on the general arrangement desired.

b. measure the distance from the position of the projection screen to the farthest row of spectators, and

c. divide this distance by 6. This will be the minimum width of the projection screen that should be used.

Regardless of the seating plan used, no member of the audience should be seated more than 6 times the width of the screen from the screen for the usual types of projected materials nor closer than twice the screen width. This "rule of thumb" ratio may also be used by the author in preparing a visual: it should be easily legible when held six times its own width from the eye.

3. General Room Arrangement

Plan the details of seating arrangement according to the type (and size) of screen available. Screens and stages should in general be placed at the "end" of a rectangular room, rather than at one side as is the favorite practice of hotels and motels which are more commonly set up for banquets with long "head tables" than for instructional use.

The room should have a low stage with a lighted lectern for the speaker to the right of the screen, facing the audience. A table for the chairman is often conveniently located on the floor to the left of the stage. Extra reserved seats for speakers may be placed nearby if a door is conveniently located. The chairman should have a hand microphone for his own use in introducing speakers. Whenever possible select a meeting room entered from (or near) the rear in preference to rooms entered from near the stage. When there are several entrances, close those near the stage if possible.

4. The Screen

Determine if a screen of the desired size is available either from the potential host institution, local rental, or your own home office. You will also need to know whether a matte or lenticular surface screen can be obtained, or whether a conventional beaded screen must be used. Matte and lenticular screens provide good viewing throughout a sector of at least 60°, while good images on beaded screens are limited to a 45° sector. A matte or lenticular screen will significantly increase the number of "good" seats in

a room (see Plate 3), but due to the wider dispersal of light, you may need a more powerful projector. Thus, unless a high intensity projector light is available, such as a zirconium arc, beaded screens are generally best for large rooms.

Approximate sector angles from the screen may be laid off on site by use of Table 3.

5. Estimating Optimum Seating Capacity

A relatively simple procedure for estimating the optimum seating capacity of a room arranged as at B, Plate 3, is as follows (also see Table 3):

a. Calculate the area of the rectangle r,a,a',r (or r,b,b',r, etc.)

b. Draw a straight line intersecting the arc m between the lines oa and oa', for example, to show approximately equal areas above and below the line and arc m. Label this the line ao-oa'

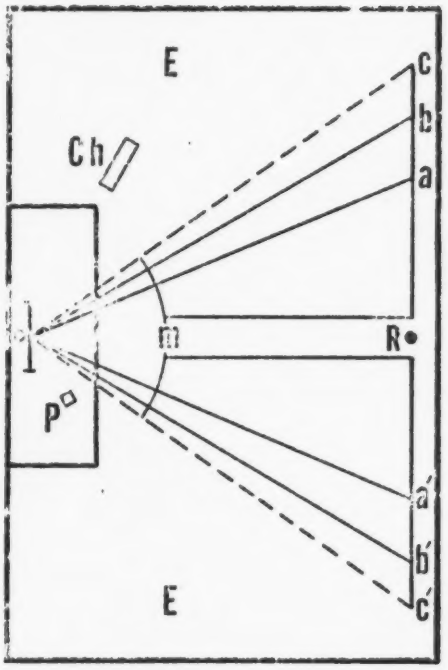
c. Calculate the area of the triangle a,a',o

d. Calculate the area of the triangle ao,oa',o

e. Subtract the area small front triangle from the total large triangle.

f. Add the area of the resulting trapezoid a,ao,oa',a to that of the rectangle r,a,a',r

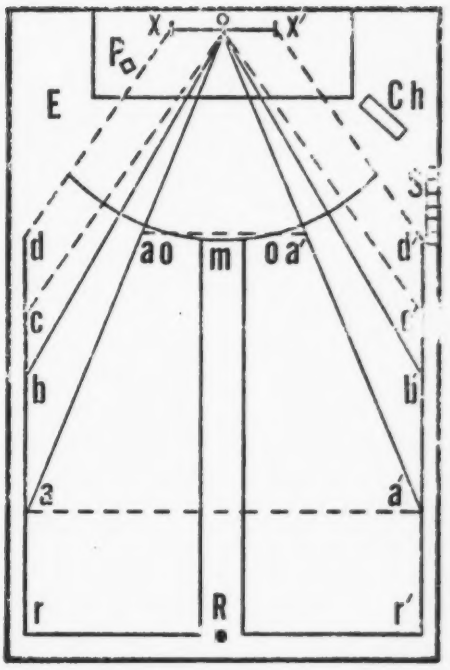
g. Subtract the area of the center aisle



A. Poor

Maximum good viewing distance (ob) = approx. 52 feet. Ideal screen size would be 9 ft. wide, could compromise on 8 ft. as shown in sketch. om = 16 ft., oR = 45 ft.

Max. seat. cap. sector aoa' = 90
" " " " bob' = 140
" " " " coc' = 190



B. Good

Maximum good viewing distance (oR) = 70 ft. Ideal screen size 12 ft wide (as shown). om = 24 ft.

Max. seat. cap. sector aoa' = 300 *
" " " " bob' = 360 *
" " " " coc' = 375 *

*Including rear rectangles and excluding area of center aisle as explained in text.

A "ballroom" 50 × 75 feet is shown in two arrangements to demonstrate the approximate numbers of people who could be seated within "good viewing areas" in folding steel chairs. Screens are shown set up 2 feet from rear walls. Side aisles of 2 feet, rear aisles of 3 feet, and center aisles of 5 feet may be less than local fire regulations will permit, and should be checked. Stages shown are 10 × 30 feet. o = center of screen; arc m = twice the width of the screen; angle aoa' = 45° (for beaded screens); angle bob' = 60° (for matte, or lenticular screens); angle coc' = 70° (possibly acceptable angle for matte or lenticular screens if distortion or "keystoning" is acceptable); R = farthest front desirable location of projector; P = speakers podium, located so as to hide no part of screen from any spectator; Ch = table for session Chairman and other group leaders; S = seats for waiting speakers (near a door); E = possible exhibit or service spaces; lines a, a' and ao, oa' are work lines discussed elsewhere; lines dx and x'd' (in B only) are parallel to co and oc', and include the total moderately acceptable viewing area; Entrances are not indicated.

PLATE 3 - ROOM ARRANGEMENT

h. Divide the total remaining square feet by 5 (or more as appropriate square feet per person). The result is the approximate number of people that could be comfortably seated in the area.

TABLE 3

LAYING OFF VIEWING SECTORS

To lay off approximate viewing sectors, measure (or pace) out from the center of the screen the distances shown along the Center line to the projector, then measure at right angles to either side as indicated to obtain the limits of the sector.

L E G E N D

Desired Total Angle	Feet From Screen Center	Feet to Either Side
45°	24	10
60°	14	16
70°	30	21

i. If maximum (less than optimum) seating is required, the lines dx and x'd' may be drawn parallel to co and oc, and the additional area so included.

6. Projection and Electrical Service

If possible, you should place projectors at the back of a room, high enough to shoot over the heads of the audience rather than through a center aisle (ample extension wires for remote control cords must be provided). A "zoom" lens sometimes can be used to excellent advantage at this point in adjusting the size of the image to exactly fill the screen without "spilling off" the edges. Approximate lens focal lengths necessary to fill various size screens at various distances are given in Plate 4, page 22. For larger sizes consult professional help. Be sure that an electrical outlet which is independent of the room lights is nearby or available by extension cord.

Check on the style or type of electrical outlets. Some institutions use special equipment that prevents the use of conventional electric plugs without special adapters.

It should be possible to dim the lights conveniently, or at least turn off those shining directly on the screen so the audience is never left in total darkness.

Determine the freedom or assistance you will have available. Hotels and motels with large staffs including electricians, custodians, and others may offer to or insist on providing complete services, while smaller or more informal organizations may provide little or no such help. Hostelries with unionized staffs must be particularly careful about arrangements they make, and of freedom of action offered to those conducting meetings. Union projectionists,

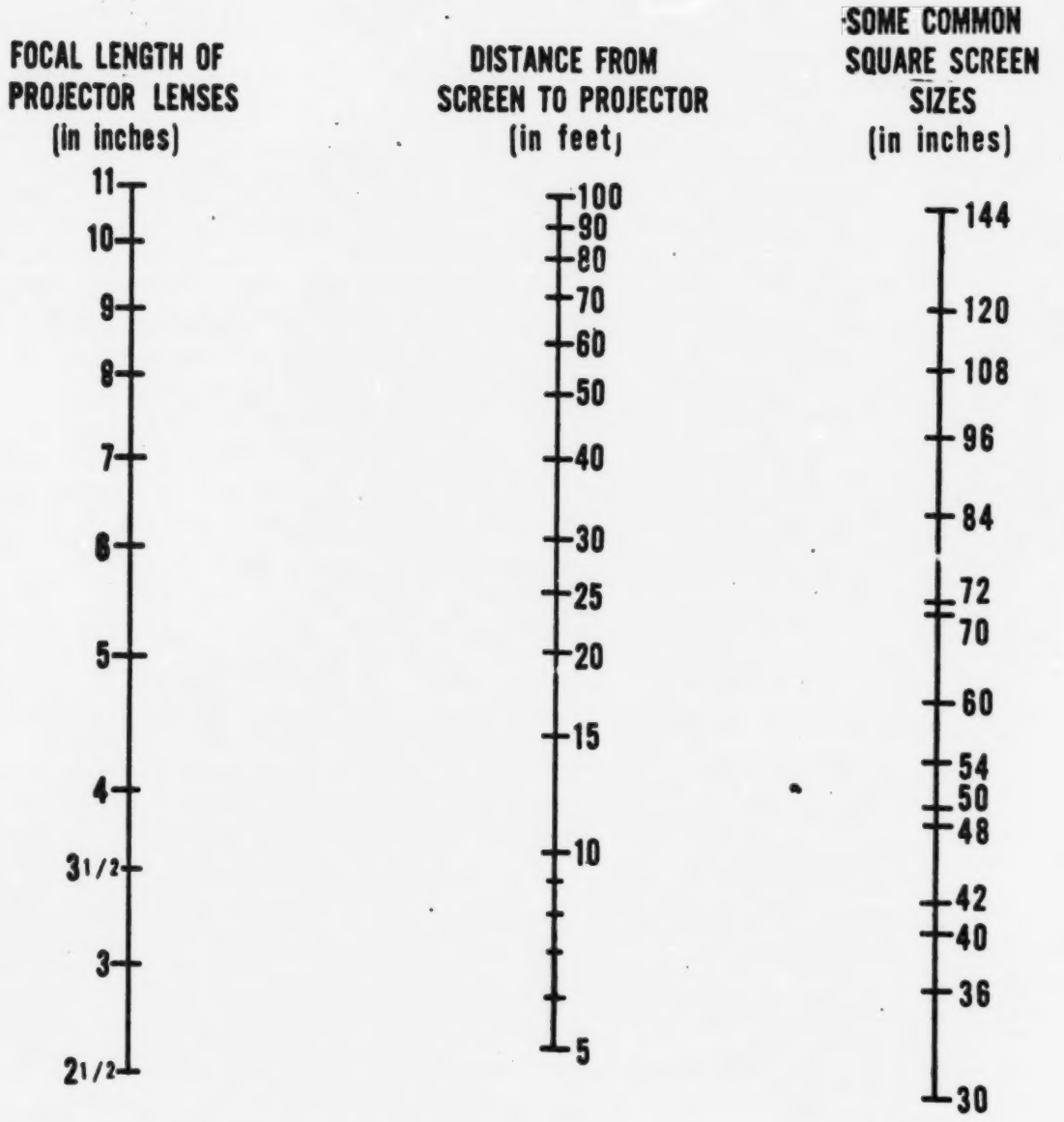


PLATE 4

Lenses, Screen Size, and Projection Distance Legend: Nomogram for determining the approximate relationships between focal length of lens, desired projection distance and size of screen required. For 2 x 2, double frame slide projectors (to use: lay a straight edge over any two known factors to obtain an estimate of the third). Zoom lenses can be adjusted to cover a range of focal lengths.

for example, are sometimes required and must be paid. Carefully ascertain who will supply which items of equipment, what charges will be involved and the method of payment.

7. Loud Speaker or Public Address Systems

For most audiences of 25 or more people, public address (PA) systems are advisable. "Leather lunged" orators are rarely encountered among technical speakers. For meetings of 50 or more they are almost mandatory. Built-in systems are usually best, but if not available, portable amplifiers must be provided. Professional help is advisable in determining the number, size, and distribution of speakers in a large hall.

Many nonprofessional speakers are uneasy with microphones and PA systems in general. For them the best solution is a "cordless" microphone, which is in reality a small transmitter worn around the neck and tuned to be received by an amplifier. This may in turn be plugged into the building system if there is one, or it may be adjusted to pass the signal on to one or more loud speakers directly. Although this equipment has many great advantages, it needs to be carefully checked out in advance at each location as local radio or other electrical interference may cause serious problems. It is good "insurance" to have a conventional cord-connected PA system also hooked up and working in case interference or other trouble develops with the cordless system.

If a cordless system is not available, or is unusable, a conventional Lavalier microphone worn around the neck with a long lead cord is next best.

With this the new or nervous speaker needs to practice moving about without becoming entangled in the cord.

Speakers should be trained not to be embarrassed to handle the cord or cast it away from their feet. They should try to avoid always turning in the same direction so that the cord becomes twisted and tangled. If it does, the Floor Manager should untangle it between sessions.

If a microphone on a stand is used, the speaker is much more confined. He should not attempt to speak to the audience if he must move away from the microphone (to write on a blackboard, for example). The Floor Manager should ascertain the particular characteristics of such equipment in advance and inform the Moderators and Speakers as to just how close to stand.

With any microphone, let the electronic system do the amplifying! Speak in a natural tone of voice, distinctly using natural inflection and enthusiasm.

PLATE 5

The Moderator should unobtrusively place the Lavalier microphone around the speaker's neck.

8. Pointers

Line operated electric pointers are highly recommended since they permit the speaker to indicate important items from a distance, or even on the largest screen. You should focus the pointer at the podium, and tape it into position because speakers are usually

unfamiliar with this equipment and need help.

9. Chalkboards

In general chalkboards are not recommended for seminars and symposiums unless the speaker has demonstrated skill and speed in their use. Furthermore, it is often difficult to locate chalkboards of adequate size in strange cities. Soft chalks of clearly visible colors should be used, and writing should be large enough and carefully enough formed to be clearly legible in all parts of the room.

C. Accessory Rooms and Service

Supplementary space should also be provided for registration, telephone and message service, a concurrent conference room, and a locked room for the storage of projectors and other valuable equipment overnight, as well as for unpacking and repacking operations on arrival and departure.

D. Conducting the Formal Sessions

1. The General Chairman

Much of the success or failure of a technical seminar depends on the Chairman. He must be a leader first of all, speaking out boldly and conducting or directing the sessions as planned. In case of emergencies he must have the competence and professional stature to make the needed adjustments gracefully, effectively,

and with as little disruption to the technical program as possible.

Much has been written on the general subject of conducting discussions, conferences, and seminars, and the subject will not be enlarged upon here. A frequent functionary of technical seminars, however, is the "Guest Moderator." Such individuals rarely understand what is expected of them, thus the section listed as "To Guest Moderators" (Appendix B) has been prepared for their guidance. It is suggested that in preparation for any given seminar, this document should be modified appropriately and a copy sent to such individuals. All members of the seminar staff should also be familiar with its contents.

In order for the Chairman or guest moderator to be able to efficiently conduct the program and gracefully introduce the speakers, he needs to know something about them. It is thus also recommended that some standard summary of the bio-data for each speaker, such as Appendix C, be prepared and distributed to those who will preside well in advance of the meeting.

2. The Floor Manager

It is strongly recommended that a nontechnical, or at least noninvolved person be designated as Floor Manager, Administrator, or other similar title in order to free technical personnel for maximum communication and contact with seminar participants. Additional duties of such an individual are suggested in "To Guest Moderators" (Appendix B).

For seminars conducted away from the base laboratory, this individual should be included in the original site selection team and later sent to the selected facility for at least one working day of reconnaissance and planning. This should be as far in advance of the actual meeting date as possible--hopefully several months.

He should also be sent ahead of the technical party to be on duty one full working day in advance of their arrival. He would work with the management of the reserved facility to make final arrangements for the physical conduct of the meeting and should be at the meeting room well in advance of the opening hour for each session (see Table 5).

3. Nontechnical Assistants

The number of nontechnical individuals required on-site to ensure the smooth conduct of the meeting naturally depends on the number of attendees expected, the sophistication of the program and the physical facilities. With groups of approximately 50 participants, one efficient Floor Manager might be able to perform all necessary functions, although one or more clerical individuals would be a great help during registration. For larger groups up to six or more may be required. The following major on-site functions may be considered:

Registration
Preparation of roster
Reception and information
Ushering
Projection of slides, etc.
Assistance to speakers
Assistance to moderators
Handling refreshments

E. Evaluation

Prepare a single page "Evaluation" sheet which can be distributed and collected during the final half-day's session. A simple check-off format such as that shown in Appendix D can be very useful in preparing for future presentations of this or similar technical programs.

F. In Conclusion

Table 4 is a list of some of the specific items that may need to be arranged or considered in advance. Not every item is pertinent to every meeting, and nearly any meeting will involve some items not noted. Table 5 suggests some last minute "re-checks" that should be made during the last hour before the first session begins, as well as before later sessions.

When a meeting must be staged on a short lead time or emergency basis, it is essential that a working group or committee be designated immediately. The exact composition and size of the group will be dictated by circumstances, but most of the usually critical personnel needs are listed in Table 4a.

For further assistance, again: call on your Training Representative. He may or may not have the money or manpower to be of physical assistance, but he can at least offer expert consultation.

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4. Planning and Producing Visual Aids, Pamphlet No. S-13, Eastman Kodak Co.

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7. Weiss, Harold and J. B. McGrath, Jr., Technically Speaking, New York, McGraw-Hill Book Company, 1963.

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TABLE 4

CHECKLIST OF ITEMS FOR ADVANCE PLANNING

(Includes many items not discussed above)

a. The working or central committee (each should have an alternate or deputy empowered to act in emergencies). Some members may "wear two or more hats." Subcommittees will be needed.

___ Technical Director and General Chairman
___ Technical staff
___ Production (Training) Consultant(s) available
___ Floor manager appointed
___ Projectionist appointed
___ Administrative officer appointed
___ Public Relations staff available

b. Professional considerations

___ The need exists
___ Technical information is (will be) available
___ An enthusiastic and willing staff can be recruited

c. Administrative, production, and staging resources

___ Funds available
___ Technical personnel available for times and places contemplated
___ Nontechnical personnel (administrative, secretarial, etc.) available for times and places contemplated
___ Production resources available for signs, visual aids, programs, transactions, manuals, etc.
___ Suitable meeting rooms and other physical facilities available in each contemplated site (preliminary judgment)
___ Determination of dignitaries to be invited to appropriate sessions.

d. Technical planning and operations

___ Target audience determined
___ Date or dates determined
___ Means and mechanisms of contacting said audience
___ Specific objectives to be accomplished
___ Type of sessions to be employed
___ Tentative topical agenda
___ Tentative annotated agenda
___ Final agenda
___ Programs and/or other printed handout material prepared
___ Invitations and instructions to guest moderators (if pertinent)
___ Plans for transportation of professional materials.

Table 4 Continued

e. Technical presentations

___ Technical person and alternate assigned for each technical topic
___ SSPs prepared
___ Visual aids reviewed with Training consultant (final decisions should be the responsibility of technical expert)

___ Objective of each
___ Format determined
___ Method of use
___ To be reproduced and included in handout material?

___ Rehearsal of speakers (with help of Training representative, if requested)

f. Meeting room arrangements

___ Room arranged as desired
___ Provision for room darkening
___ Light for audience to take notes during projection
___ Exit lights operating
___ Lectern for speaker
___ Table or other station for session chairmen
___ Air-conditioning in operation
___ Seats cleaned and operating
___ Room cleaned each day
___ Chalkboard cleaned each day
___ Ash trays, matches (check local fire regulations regarding smoking, etc.)
___ Water glasses and pitcher for speakers
___ Electric or other pointers for speakers
___ Pencils, note pads

g. Projection and other electronic equipment

___ Projection equipment of suitable size and type to satisfy needs of speakers and compatible to meeting room
___ Projector and projectionist for each session as needed
___ All power plugs to be connected to room receptacles mutually compatible (there are many different types)
___ Extension cords for both power and projector control plugged in and tested
___ All cords so placed or protected that no one will trip over them
___ Projectors focused, framed, and leveled using actual material
___ Spare lamps and fuses on hand
___ Lenses cleaned
___ Sound system tested with loudspeakers in place
___ Recording equipment turned on and tested

Table 4 Concluded

h. Nontechnical arrangements (the specific items which apply will vary in different circumstances)

___ Reservation of space for time desired
___ After-hours access for official staff members
___ Reservation of block of rooms if in hotel or motel
___ Banquet arrangements
___ Notification of hostelry of expected attendance
___ Special personnel transportation needs for participants or guest moderators
___ Entertainment for wives accompanying participants
___ Space and electric power for displays
___ Unloading docks, dollys, and elevators available
___ Safe storage room for shipping containers, overnight storage of valuable equipment, etc.
___ Extra rooms for press and consultation
___ Administration room with telephone
___ Desk or other facility for registration
___ Telephones for participants
___ Parking facilities
___ Information on public transportation
___ Photographers, reporters, other public relations items such as prepared news releases
___ Local union requirements for projection or other special activity
___ Special signs needed and locations
___ Local liquor regulations
___ Name badges
___ Information on local after hours sporting or other events
___ Special fees required for any of above.

TABLE 5

ON-SITE RECHECK BEFORE OPENING (AND FOLLOWING) SESSION(S)

___ Room open; lights, ventilation, PA system, etc. on and functioning
___ Room clean and neat, arranged as planned
___ Direction and other signs in place (outdoors and indoors) and read correctly
___ Registration desk and personnel (or equivalent) set up and ready
___ Projectors and projectionists ready with projectuals in hand for first speakers.
___ Supplementary lighting or PA control personnel, ushers, etc. if required, present and on duty
___ Last minute substitute personnel are duly instructed and on duty
___ Demonstrations, displays, etc. (if any) set up and working or manned as required
___ Shipping containers and packing materials stowed out of sight in a safe place
___ General Chairman (if so planned) present and available to "VIPs"
___ Honored guests (if any) properly hosted
___ Person designated to call meeting to order is present and prepared
___ Water and disposable cups available to speaker
___ Moderator and first speakers present and prepared
___ Arrangements for first coffee break clearly understood by both kitchen or caterer, and session Moderator
___ Other final arrangements are all "Go."

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APPENDIX A

SPEAKER'S SESSION PLAN	
Title of Session:	Author:
Time Period (Total):	Speaker:
Type of Session:	File No.:
Place:	Meeting:
Projector Needs:	

OBJECTIVE(S):

NOTES, REMARKS:

Time	Outline	Key Points and Aid Cues

SPEAKER'S SESSION PLAN (Continued)

Time	Outline	Key Points and Aid Cues

APPENDIX B
TO GUEST MODERATORS

You have accepted responsibility for moderating a session of a technical seminar or symposium. It is a pleasure to welcome you to the official staff. The following specific duties have been assigned to you:

1 Your duties as moderator should, if practicable, begin informally at least a half day before your formal session is scheduled to start. First, present yourself to the chairman or technical director of the symposium. And, if you do not already know him, get acquainted. Ask him to introduce you to the Floor Manager.

With the help of the Floor Manager, locate your speakers and be sure they understand how you will conduct the session. Become somewhat acquainted with each so that you can impart to the audience a genuine feeling that, in each case, you are introducing a friend.

2 It is your responsibility, with the assistance of the Floor Manager, to start and stop the session assigned to you at the stated times. You should assure yourself in advance, possibly with the assistance of a local secretary, that each speaker will appear on time. Greet him, assist him in placing the microphone around his neck (if a PA system is being used, or if the sessions are being taped) and introduce him to the audience cordially but briefly. The entire program is carefully planned as a unit, and it is very important that full utilization be made of all assigned time, but no session should be permitted to intrude on time assigned to the following session. Technical speakers are generally accustomed to working within a rigid time framework, so none will be offended if you are forced to "call time" on them.

The exact procedure used for this will vary with the room and other circumstances. Sometimes you can slide a "5 minutes" warning card across the table to him if you are all seated at a table on the stage (you should be next to the center podium if there is one). At other times, the Floor Manager can hold up such a card from the back of the room (from behind the audience). In a small room, the hand raised with five fingers spread will serve the same purpose. The Floor Manager will confer with you in advance as to what procedure is to be used. One-minute and terminal warning cards should also be employed if necessary.

If your speaker has not stopped shortly after the terminal warning, more stringent measures are called for, and you may have to stand up and interrupt the recalcitrant speaker with a "...thank you very much for these remarks but...!" As noted above, however, most of the speakers on this program have been through all this before, and you will probably have no trouble. Some of the introductory or concluding speakers, however, occasionally need a little extra explanation.

3 "Break" time for the audience is equally important. Check with the Floor Manager to ascertain what device or procedure has been planned to call the audience back into the room in time to start the next session on schedule.

4 You will, at all times, have the assistance of the "Floor Manager" who has been assigned to work closely with you.

5 You will be provided with a list of speakers in your session, giving for each a brief resume of his background and present position (Appendix C), and whether or not he

will have slides to be projected. It is not generally recommended that the entire resume be recited in introducing each speaker--this becomes redundant.

6 "Tie-ins"

You should understand the rationale of your session so that from time to time, as appropriate, you can supplement the formal introduction of the speakers by a few brief remarks which point out or remind the audience of the relationship of the talk they are about to hear (or have just heard) to other topics, past or future. This helps the audience keep the entire series of sessions in mind as an organized unit.

7 Discussion

(Subject to advance decision on policy.) Urge your speakers to stop on the five-minute warning (or before) and ask for questions or comments from the audience. If there are none forthcoming, you should be prepared to "start the ball rolling" yourself. This is very important. Most speakers do not leave enough time for audience participation, but when it does develop, it should be used to the fullest. If the audience is large (fifty or more), you may have to call on individuals in the audience whom you know personally or have "primed" in advance. Others may usually be relied on to take over. Be sure to repeat questions from the audience through the PA system, as members of the audience, especially those in the back can rarely hear each other.

8 You and the Floor Manager

The successful Floor Manager is one of the least conspicuous and most important men in the symposium. He will often be the man who has made the arrangements with the management of the meeting facility, and will be thoroughly familiar

with it. He will generally be a member of the organizing committee. He will know the speakers and will help you locate them for conference in advance of your session. He will either have the slides from each speaker, or help you to obtain them, and will inform you as to who has slides to show. He will know where the light switches are located and how to darken the room if necessary. He will also be in direct charge of projection. If a "remote control" projector is used, it is your joint responsibility to see to it that each speaker knows how to work the button. It is the responsibility of the projectionist to load any slide magazines correctly (if loaded magazines are not provided by the speakers in advance).

He will show you how to throw the cord of the Lavalier microphone around the speakers neck (if you do not already know) and will occasionally untangle the cord between sessions if necessary. He will know where to find the pointer, the extra chalk and the eraser. His basic job is to help you to help the speaker do the best possible job. Be sure to locate him and discuss your session at least a half day in advance as mentioned above, if practicable.

He is your prime resource man for running unanticipated errands, bringing messages to you or emergency calls to members of the audience. He knows where the restrooms, telephones and restaurants are located and how to call a taxi. When the public address system squeals from "feedback," he knows or has told you how to cut it down. In short he is the "Man Friday" who relieves the technical director and other professionally involved personnel of the meeting of all possible distraction so the maximum possible intellectual and practical benefit and exchange of information may take place.

APPENDIX C

BIO-DATA ON SPEAKERS FOR USE OF MODERATORS

Date _____

1. Name _____

2. Title _____

3. Business Address _____

4. Education

College or University	Field of Specialization	Degree	Date

5. Professional Registration or Certification (if applicable)

License	State and Number	Date

6. Professional Affiliations and Honor Societies (include offices held)

_____

_____

_____

7. Professional History (brief statement of previous professional positions held, dates of tenure, significant responsibilities, etc.)

_____

_____

_____

_____

_____

8. Major Research Studies, Reports, etc.

9. If you have received special honors or awards for scientific achievement, list in this space.

10. Additional Comments

TECHNOLOGY TRANSFER SEMINAR

Program Evaluation

I. The results of this evaluation will be anonymous, so it is not necessary to sign this evaluation. However, please identify your type of business or employment: (Check one in each column)

Field	Function	Employer
___Chemistry	___Operator	___Consultant
___Biology	___Field Engineer	___Industrial
___Microbiology	___Designer	___Municipal
___Civil Engineer	___Research/Develop.	___County
___Sanitary Engineer	___Scientist	___State
___Chemical Engineer	___Manager	___Federal
___Other	___Official	___University
	___Instructor	___Other
	___Other	

Years Experience____

II. Using the following scale, evaluate this program on the basis that: 1 = need for improvement; 2 = intermediate value; 3 = satisfactory; 4 = intermediate value; and, 5 = excellent. Place your numerical values in the parentheses provided below for the program factors indicated. In addition, use the "Remarks" space to clarify any evaluation made, or to invite attention to any factor not otherwise covered in this evaluation. Use the reverse side if necessary.

A. Seminar Objectives

1. Were the objectives of this seminar made clear? ( )

2. Were the objectives of this program consistent with wastewater treatment needs in this geographic area? ( )

REMARKS:

B. Subject Matter Coverage

1. Was the subject matter coverage consistent with the program objectives? ( )

2. Did the seminar provide you with information for necessary decisions in applying the wastewater treatment processes considered? ( )

REMARKS:

C. Please evaluate this seminar in terms of the following:

1. Advanced information and enrollment procedures ( )

2. Organization of seminar ( )

3. Facilities ( )

4. Presentations ( )

5. Opportunity for questions and discussion ( )

6. Printed material ( )

7. Visual materials and other training aids, demonstrations ( )

REMARKS: